STATEMENT OF BASIS

Grede II, LLC
210 Ann Avenue
Brewton, Alabama
Escambia County
502-0011

This proposed Title V Major Source Operating Permit renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

The significant sources of air pollutants at this facility are:

Dryer/Preheater A and B with baghouses
Four Electric Induction Furnaces
Ductile Treatment Process with baghouse
Metal Casting Lines
    Three Pouring and Cooling Lines with baghouses
MD-200 Shakeout
    Didion Rotary Shakeout with baghouse (shared with RS-100 Shakeout)
RS-100 Shakeout
    Didion Rotary Shakeout with baghouse (shared with MD-200 Shakeout)
Foundry Sand System with baghouse (shared with Sand Cooler)
Foundry Sand Cooler with baghouse (shared with Foundry Sand System)
Continuous Shotblast with baghouse (shared with Grinding Stations)
Wheelabrator Shotblast with baghouse
Snag Grinders with baghouse
Eight Grinding and Finishing Stations with baghouse
    (shared with Continuous Shotblast)
Core Making Process with Packed Bed Scrubber (Two LKF 210 , Two Disa Combi-Core and One B & P Isocure Core Machines)

The facility is manned 8,760 hours per year. Based on the Title V permit application, this facility is a potential major source for Particulate Matter (PM), Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs).

The Four Electric Induction Furnaces, Nodularization process (Ductile Treatment Process), Continuous Shotblast, Wheelabrator Shotblast, and the three Pouring and three Cooling Lines were modified to reflect emission limits changes in the modified Title V issued December 12, 2005. These units were re-permitted by request of the facility to reduce the total facility particulate matter allowable emissions below the 250 tons per year threshold for PSD applicability. The facility stated they could meet all required limits.

MACT Applicability

This facility is subject to the applicable requirements of 40 CFR part 63 Subpart EEEEE, *"National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries"*. Grede II must be in compliance with the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart at all times, except during periods of startup, shutdown, or malfunction. To demonstrate compliance, the facility must conduct initial and subsequent performance tests for all emission sources subject to an emissions limit. Brewton has conducted initial performance tests on all applicable units except the Isocure Core Machine, 3 LKF 210 Core Machines and Disa Core Machine with associated scrubber. **This subpart covers emissions from metal melting electric induction furnaces, natural gas-fired scrap preheaters, and pouring stations (A&B) located at Grede II. This subpart also covers fugitive emissions from foundry operations.**

Dryer/Preheater A and B with Baghouses (D & H)

Emission Standards:

- **Particulate Emission Standard:**

  1. Particulate emissions (PM) from Dryer/Preheater A and B shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 1.5 lb/hr and 3.7 tpy out of the baghouse stack or the process weight allowable.

  $E = 3.59\ (P)^{0.62}$ (P<30 tons/hr)
  $E = 17.31\ (P)^{0.16}$ ($P \geq 30$ tons/hr)
  Where E = Emissions in pounds per hour
  P = Process weight per hour in tons per hour

  At maximum capacity the combined process weight PM allowable for these units would be 24.4 lb/hr and 60.1 tpy

  ADEM Admin. Code R.335-3-4-.04-(1)

  2. Particulate matter emissions from each electric induction furnace shall not exceed 0.005 gr/dscf or, alternatively, metal hazardous air pollutants (HAP) emissions shall not exceed 0.0004 gr/dscf.

  <u>40 CFR §63.7690 (a) (1)(i & ii) Subpart EEEEE</u>

3. The facility must comply with the scrap certification or scrap selection and inspection program specified in 40 CFR §63.7700.

40 CFR §63.7700 Subpart EEEEE

Opacity Standards:

Any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9.

ADEM Admin. Code R. 335-3-4-.01 (1)

Expected Emissions:

Expected combined particulate emissions from both Dryer/Preheater A and B are 0.13 lb/hr and 0.57 tpy. This is based on the AP-42 emission factors, 8,760 operating hours per year, 108,360 tons of metal treated/yr, and 99.0% control efficiency. Other emissions such as NO_X, SO_2, CO and VOCs are insignificant.

Periodic Monitoring:

Based on the level of expected particulate emissions from the baghouses as compared to the regulatory allowable, the following requirements would represent periodic monitoring for Dryer/Preheater A and B with Baghouses.

1. The permittee shall perform a visual check, once per day, of the baghouses associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per week check the hopper, fan and cleaning cycle for proper operation.
    b. Once per week a visual check of all hoods and ductwork.
    c. Record any repairs or observed problems.

4. The permittee shall perform a monthly inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per month inspect baghouses structure, access doors, door seals and bags.
    b. Once per month perform an internal inspection of the baghouses hoppers.
    c. Record any repairs or observed problems.

Four Electric Induction Furnaces with Baghouse K and Nodularization (Metal Treatment) with Baghouse G

Emission Standards:

- **Particulate Matter Emission Standard :**

1. Combined particulate matter emissions from the Four Electric Induction Furnaces shall not exceed the lesser of the Anti-PSD limit of 0.46 lb/ton and 19.4 lb/hr of molten iron produced or the allowable as set by Rule 335-3- 4-.04.

2. Particulate matter emissions from the Baghouse G shall not exceed 0.26 lb/ton and 5.8 lb/hr or the allowable as set by rule 335-3-4-0.4.

ADEM Admin. Code R.335-3-14-.04(Anti-PSD)

Or

Particulate matter emissions from these units shall not exceed the allowable as set by Rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$ (P<30 ton/hr)
$E = 17.31 (P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R.335-3-3-.04-(1)

3. The production of molten (ladled) iron by the foundry's four (4) electric induction furnaces shall not exceed 108,360 tons during any consecutive twelve (12) month period.

ADEM Admin. Code R.335-3-14-.04(Anti-PSD)

4. Particulate matter emissions from each electric induction furnace shall not exceed 0.005 gr/dscf or, alternatively, metal hazardous air pollutants emissions shall not exceed 0.0004 gr/dscf.

40 CFR §63.7690 (a) (1) Subpart EEEEE

5. The facility must comply with the scrap certification or scrap selection and inspection program specified in 40 CFR §63.7700.

40 CFR §63.7700 (a) thru (f) Subpart EEEEE

- **Opacity Standards:**

1. This source shall not emit particulate matter of opacity of more than one 6-minute average greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%.

ADEM Admin. Code R335-3-3-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions:**

1. Expected combined emissions from the four electric induction furnaces are 0.506 lb/hr (1.25 tpy). This is based on an emission factor of 0.46 lb/ton, 108,360 tons of metal melted/yr, 4,925.5 operating hours per year, and a control efficiency of 95%.

Periodic Monitoring:

- **Particulate Matter/Opacity Emissions:**

1. The permittee shall perform a daily visual check of the building containing the four induction furnaces. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 15% opacity are observed, and are not corrected within a period of an hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. This permittee shall perform a visual check, once per day, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 15% opacity are observed, and are not corrected within a period of an hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

3. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

4. The permittee shall perform a weekly inspection of the baghouses to verify proper operation. The following activities shall be performed.

   (a) Once per week check hopper, fan, and cleaning cycle for proper operation.

   (b) Once per week a visual check of all hoods and duckwork.

5. The permittee shall perform an annual inspection of the baghouses to verify proper operation. The following activities shall be performed.

   (a) Once per year inspect baghouse structures, access doors, door seals, and bags.

   (b) Once per year perform an internal inspection of the baghouse hoppers.

6. These units must comply with the emission monitoring standards as set forth in 40 CFR 63.7740(a)(2)(b)(1-8), 63.7741(a)(1-3), and 63.7742 (a)(c) Subpart EEEEE.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Two Pouring Lines with Custom Systems Baghouse (K) and Three Cooling Lines with Roof Vents and Amerex Baghouse (B)

Emissions Standards:

- **Particulate Emission Standards:**

1. Particulate emissions from the Two Pouring Lines shall not exceed 0.50 lb/ton melted iron poured and 11.03 lb/hr or the allowable as set by Rule 335-3-4-.04.

2. Particulate matter emissions from the building vents above the Three Cooling Lines shall not exceed 0.74 lb/ton melted iron processed and 14.0 lb/hr or the allowable as set by Rule 335-3-4-0.4.

3. Particulate emissions from the Three Cooling Lines shall not exceed 0.16 lb/ton melted iron poured and 3.4 lb/hr (14.9 TPY) or the allowable as set by Rule 335-3-4-.04.

ADEM Admin. Code R.335-3-14-.04 (Anti-PSD)

Or

Particulate Matter emissions from the Two Pouring Lines and Three Cooling Lines shall not exceed the allowable as set by Rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$ (P<30 ton/hr)
$E = 17.31 (P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R.335-3-3-.04-(1)

3. These units must comply with the emission standards as set fourth in 40 CFR 63.7690 (a)(5) Subpart EEEEE.

Each pouring station at an existing iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM 0.010 gr/dscf, or the limit for total metal HAP of 0.0008 gr/dscf.

40 CFR Part 63 Subpart EEEEE

- **Opacity Standards:**

  This source shall not emit particulate matter of opacity of more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%.

  ADEM Admin. Code R335-3-3-.01(1)

Expected Emissions:

1. Expected emissions from the Two Pouring Lines are 0.885 lb/hr and 1.35 tpy. This is based on emission factor of 0.50 lb/ton, 108,360 tons of metal melted per year, 3061 operating hours per year, and 95% control efficiency.

2. Expected emissions from the roof vents above the Three Cooling Lines are 0.262 lb/hr and 0.4 tpy. This is based on emission factor of 0.74 lb/ton, 108,360 tons of metal melted per year, 3061 operating hours per year, and 99% control efficiency.

Periodic Monitoring:

1. The permittee shall perform a visual check, once per day, of the baghouse associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. Once per day check the two pouring lines and three cooling lines capture hoods for fugitive emissions and emissions capture. Record any repairs or observed problems

4. The permittee shall perform a daily visual check of the building containing the Two Pouring Lines and Three Cooling Lines. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 15% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

5. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

a. Once per week check the hopper, fan and cleaning cycle for proper operation.
b. Once per week a visual check of all hoods and ductwork.
c. Record any repairs or observed problems.

6. The permittee shall perform a monthly inspection of the baghouse to verify proper operation. The following activities shall be performed.

   a. Once per month inspect baghouses structure, access doors, door seals and bags.
   b. Once per month perform an internal inspection of the baghouses hoppers.
   c. Record any repairs or observed problems.

7. These units must comply with the emission monitoring standards as set forth in 40 CFR 63.7742 (a-c) Subpart EEEEE.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Sand Cooler with shared Baghouse (C)

Emissions Standards:

- **Particulate Emission Standards**

1. The Sand Cooler and Foundry Sand System have a combined Anti-PSD limit of 3.0 lb/hr and 7.39 tpy out of the units or the process weight allowable. This limit was requested by the facility in order to stay below the PSD major source threshold.

ADEM Admin. Code335-3-14-.04(8)

Or

$E = 3.59 (P)^{0.62}$ (P<30 ton/hr)
$E = 17.31 (P)^{0.16}$ (P≥30 tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

At maximum capacity the process weight PM allowable for this unit would be 39.7 lb/hr and 173.9 tpy.

ADEM Admin. Code R.335-3-3-.04-(1)

- **Opacity Standards**

  This source shall not emit particulate matter of opacity of more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9.

  ADEM Admin. Code R335-3-3-.01(1)

Expected Emissions:

Expected combined emissions from the Sand Cooler and Foundry Sand System are 2.0 lb/hr and 4.93 tpy from the baghouse stack. This is based on Method 5 testing of the baghouse on October 8, 2002.

Periodic Monitoring:

Based on the level of expected particulate emissions from the shared baghouse stack as compared to the regulatory allowable, the following requirements would represent periodic monitoring for the Sand Cooler with Shared Baghouse.

1. The permittee shall perform a visual check, once per day, of the baghouse associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

   a. Once per week check the hopper, fan and cleaning cycle for proper operation.
   b. Once per week a visual check of all hoods and ductwork.
   c. Record any repairs or observed problems.

4. The permittee shall perform a monthly inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per month inspect baghouses structure, access doors, door seals and bags.
    b. Once per month perform an internal inspection of the baghouses hoppers.
    c. Record any repairs or observed problems.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Foundry Sand System with Shared Baghouse (C)

Emissions Standards

- **Particulate Emission Standards**

1. The Foundry Sand System and Sand Cooler have a combined Anti-PSD limit of 3.0 lb/hr and 7.39 tpy out of the units or the process weight allowable. This limit was requested by the facility in order to stay below the PSD major source threshold.

ADEM Admin. Code335-3-14-.04(8)

Or

$E = 3.59 (P)^{0.62}$ (P<30 ton/hr)
$E = 17.31 (P)^{0.16}$ (P≥30 tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

At maximum capacity the process weight PM allowable for this unit would be 39.7 lb/hr and 173.9 tpy.

ADEM Admin. Code R.335-3-3-.04-(1)

- **Opacity Standards**

  This source shall not emit particulate matter of opacity of more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9.

  ADEM Admin. Code R335-3-3-.01(1)

Expected Emissions:

Expected combined emissions from the Foundry Sand System and Sand Cooler are 2.0 lb/hr and 4.93 tpy from the baghouse stack. This is based on Method 5 testing of the baghouse on October 8, 2002.

Periodic Monitoring:

Based on the level of expected particulate emissions from the shared baghouse stack as compared to the regulatory allowable, the following requirements would represent periodic monitoring for the Foundry Sand System with Shared Baghouse.

1. The permittee shall perform a visual check, once per day, of the baghouse associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

   a. Once per week check the hopper, fan and cleaning cycle for proper operation.
   b. Once per week a visual check of all hoods and ductwork.
   c. Record any repairs or observed problems.

4. The permittee shall perform a monthly inspection of the baghouse to verify proper operation. The following activities shall be performed.

   a. Once per month inspect baghouses structure, access doors, door seals and bags.

b. Once per month perform an internal inspection of the baghouses hoppers.
c. Record any repairs or observed problems.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Rotary Shakeouts (2) with Shared Baghouse (I)

Emissions Standards:

- **Particulate Emission Standards**

1. The Two Rotary Shakeouts have a combined Anti-PSD limit of 3.4 lb/hr and 14.8 tpy out of the units or the process weight allowable. This limit was requested by the facility in order to stay below the PSD major source threshold.

ADEM Admin. Code335-3-14-.04(8)

Or

$E = 3.59 (P)^{0.62}$ (P<30 ton/hr)
$E = 17.31 (P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

At maximum capacity the process weight PM allowable for this unit would be 38.6 lb/hr and 87.0 tpy.

ADEM Admin. Code R.335-3-3-.04-(1)

- **Opacity Standards**

This source shall not emit particulate matter of opacity of more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9. Other emissions such as NO_X, SO_2, and VOCs are insignificant.

ADEM Admin. Code R335-3-3-.01(1)

Expected Emissions:

Expected combined emissions from the Two Rotary Shakeouts are 2.70 lb/hr and 11.8 tpy from the baghouse stack. This is based on the AP-42 emission factors, 8,760 operating hours per year, and a control efficiency of 99.0%.

Periodic Monitoring:

Based on the level of expected particulate emissions from the shared baghouse stack as compared to the regulatory allowable, the following requirements would represent periodic monitoring for the Two Rotary Shakeouts with Shared Baghouse.

1. The permittee shall perform a visual check, once per day, of the baghouse associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. All dust handling systems (screw conveyers, silos, dumpsters, etc) shall be inspected once per day to verify proper operation. Any repairs or observed problems shall be recorded.

4. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per week check the hopper, fan and cleaning cycle for proper operation.
    b. Once per week a visual check of all hoods and ductwork.
    c. Record any repairs or observed problems.

5. The permittee shall perform an annual inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per year inspect baghouses structure, access doors, door seals and bags.
    b. Once per year perform an internal inspection of the baghouses hoppers.
    c. Record any repairs or observed problems.

<u>Compliance Assurance Monitoring (CAM)-Particulate Matter</u>

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading.

Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Continuous Shotblast with Baghouse (J)

Emissions Standards

- **Particulate Emission Standards**

Particulate emissions from the Continuous Shotblast Baghouse shall not exceed 0.37 lb/ton of iron processed or the allowable as set by Rule 335-3-4-.04.

ADEM Admin. Code R. 335-3-14-.04(Anti-PSD)

Or

Particulate matter emissions from the Continuous Shotblast shall not exceed the allowable as set by Rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$ (P<30 ton/hr)
$E = 17.31 (P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R.335-3-3-.04-(1)

- **Opacity Standards**

This source shall not emit particulate matter of opacity of more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9. Other emissions such as NO_X, SO_2, and VOCs are insignificant.

ADEM Admin. Code R335-3-3-.01(1)

Expected Emissions:

- **Particulate Matter Emissions**

Expected emissions from the Continuous Shotblast are 0.081 lb/hr (0.2 tpy). This is based on an emission factor of 0.37 lb/ton, 108,360 tons of metal melted per year, 4,925.5 operating hours per year, and a control efficiency of 99%.

Periodic Monitoring:

- **Particulate Matter/Opacity Emissions**

Based on the level of expected particulate emissions from the baghouse stack as compared to the regulatory allowable, the following requirements would represent periodic monitoring for the Continuous Shotblast with Baghouse.

1. The permittee shall perform a visual check, once per day, of the baghouse associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per week check the hopper, fan and cleaning cycle for proper operation.
    b. Once per week a visual check of all hoods and ductwork.
    c. Record any repairs or observed problems.

4. The permittee shall perform an annual inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per year inspect baghouses structure, access doors, door seals and bags.
    b. Once per year perform an internal inspection of the baghouses hoppers.
    c. Record any repairs or observed problems.

<u>Compliance Assurance Monitoring (CAM)-Particulate Matter</u>

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Wheelabrator (Reclean) Shotblast with Baghouse (E)

Emissions Standards

- **Particulate Matter Emission Standard**

  Particulate matter emissions from the Wheelabrator Shotblast shall not exceed 0.37 lb/ton iron processed or the allowable as set by Rule 335-3-4-.04.

  ADEM Admin. Code R. 335-3-14-.04(Anti-PSD)

  Or

  Particulate matter emissions from the Wheelabrator Shotblast shall not exceed the allowable as set by rule 335-3-4-.04.

  $E = 3.59\ (P)^{0.62}$ (P<30 ton/hr)
  $E = 17.31\ (P)^{0.16}$ ($P \geq 30$ tons/hr)
  Where E = Emissions in pounds per hour
  P = Process weight per hour in tons per hour

  ADEM Admin. Code R.335-3-3-.04-(1)

- **Opacity Standards**

  This source shall not emit particulate matter of opacity of more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9. Other emissions such as NO_X, SO_2, and VOCs are insignificant.

  ADEM Admin. Code R335-3-3-.01(1)

Expected Emissions:

- **Particulate Matter Emissions**

Expected combined emissions from the Wheelabrator Shotblast are 0.081 lb/hr (0.2 tpy). This is based on an emission factor of 0.37 lb/ton, 108,360 tons of metal melted per year, 4,925.5 operating hours per year, and a control efficiency of 99%.

Periodic Monitoring:

- **Particulate Matter/Opacity Emissions**

1. The permittee shall perform a visual check, once per day, of the baghouse associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per week check the hopper, fan and cleaning cycle for proper operation.
    b. Once per week a visual check of all hoods and ductwork.
    c. Record any repairs or observed problems.

4. The permittee shall perform an annual inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per year inspect baghouses structure, access doors, door seals and bags.
    b. Once per year perform an internal inspection of the baghouses hoppers.
    c. Record any repairs or observed problems.

<u>Compliance Assurance Monitoring (CAM)-Particulate Matter</u>

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Snag Grinders and Degating Line with Common Baghouse (A)

Emissions Standards:

- **Particulate Emission Standards**

  Combined particulate emissions from the Snag Grinders and Degating Line with Common baghouse shall not exceed the process weight allowable.

  ADEM Admin. Code335-3-14-.04(8)

  $E = 3.59\ (P)^{0.62}$ (P<30 ton/hr)
  $E = 17.31\ (P)^{0.16}$ ($P \geq 30$ tons/hr)
  Where E = Emissions in pounds per hour
  P = Process weight per hour in tons per hour

  At maximum capacity the process weight PM allowable for this unit would be 10.0 lb/hr and 26.0 tpy.

  ADEM Admin. Code R.335-3-3-.04-(1)

- **Opacity Standards**

  This source shall not emit particulate matter of opacity of more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9. Other emissions such as NO_X, SO_2, and VOCs are insignificant.

  ADEM Admin. Code R335-3-3-.01(1)

Expected Emissions:

Expected emissions from the Snag Grinders and Degating Line are 0.50 lb/hr and 1.3 tpy from the baghouse stack. This is based on the AP-42 emission factors, 8,760 operating hours per year, and a control efficiency of 99.0%.

Periodic Monitoring:

Based on the level of expected particulate emissions from the baghouse stack as compared to the regulatory allowable, the following requirements would represent periodic monitoring for the Snag Grinders and Degating Line with Baghouse.

1. The permittee shall perform a visual check, once per day, of the baghouse associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall maintain a pressure drop within the range specified in the Department approved CAM Plan. The permittee shall monitor and record the pressure drop across the baghouse once per day.

3. The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per week check the hopper, fan and cleaning cycle for proper operation.
    b. Once per week a visual check of all hoods and ductwork.
    c. Record any repairs or observed problems.

4. The permittee shall perform an annual inspection of the baghouse to verify proper operation. The following activities shall be performed.

    a. Once per year inspect baghouses structure, access doors, door seals and bags.
    b. Once per year perform an internal inspection of the baghouses hoppers.
    c. Record any repairs or observed problems.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. Small CAM is applicable to this unit for the particulate matter emissions. The facility shall monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility shall monitor and record the pressure drop across the baghouse within the specified range approved by the Department on a daily basis.

Core Making Process with Shared Packed-Bed Scrubber

Emissions Standards

- Particulate Emission Standards =

Particulate emissions from one LKF 210 Core machine shall not exceed the lesser of the Anti-PSD particulate emission of 3.3 lb/hr and 14.9 tpy or the process weight allowable. Combined particulate emissions from the two LKF 210 Core machines,Two Disa Combi-Core Machines and One B & P Isocure Machine shall not exceed the lesser of the Anti-PSD particulate emission limit of 3.3 lb/hr or 14.9 tpy or the combined process weight allowable for the five core machines.

ADEM Admin. Code R. 335-3-14-.04(8)

$E = 3.59 (P)^{0.62}$ (P<30 ton/hr)
$E = 17.31 (P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

At maximum capacity the process weight PM allowable for the one LKF 210 Core Machine would be 3.48 lb/hr and 15.3 tpy. The combined PM allowables for the two LKF 210 Core Machines, Two Disa Combi-Core Machine and One B& P Core Machine would be 10.8 lb/hr and 47.4 tpy.

ADEM Admin. Code R.335-3-3-.04-(1)

- Opacity Standards =

Any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9. Other emissions such as NO_X, SO_2, and VOCs are insignificant.

ADEM Admin. Code R335-3-3-.01(1)

- TEA = 1 ppmv

These units must comply with emission standards as set in 40 CFR 63.7690 (11)(i) Subpart EEEEE.

The facility must not discharge emissions of triethylamine (TEA) through a conveyance to the atmosphere that exceeds 1 ppmv, as determined when scrubbing with fresh acid solution.

Expected Emissions:

Expected emissions from the one LKF 210 Core Machine would be 0.02 lb/hr and 0.09 tpy. Expected combined PM emissions from the two LKF 210 Core machines, two Disa Combi-Core Machines and one B& P Core Machine would be 0.13 lb/hr and 0.57 tpy.

Periodic Monitoring:

Based on the level of expected particulate emissions from the shared pack bed scrubber stack as compared to the regulatory allowable, the following requirements would represent periodic monitoring for the core making process.

1. The permittee shall perform a visual check, once per day, of the stack associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The permittee shall monitor and record scrubber column differential pressure and scrubbing solution pH once per day.

3. The permittee shall perform a weekly inspection of the packed bed scrubber to verify proper operation. The following activities shall be performed.

    a. Once per week a visual check of the scrubber, blower, and scrubbing solution pump for proper operation.
    b. Once per week a visual check of all hoods and ductwork.
    c. Record any repairs or observed problems.

4. The permittee shall perform an annual inspection of the pack bed scrubber to verify proper operation. The following activities shall be performed.

    a. Once per year inspect scrubber structure, access doors, and door seals.
    b. Once per year perform an internal inspection of the scrubber mist eliminators and scrubbing solution pumps.
    c. Record any repairs or observed problems.

Recommendation:

I recommend that Grede II, LLC be issued a Major Source Operating Permit in accordance with ADEM regulations.

Engineer: Paul J. Vaccaro
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Air Division
Date: October 30, 2010